

REMARKS/ARGUMENTS

Favorable reconsideration of this application as currently amended and in view of the following remarks is respectfully requested.

Claims 1-13 and 15-19 are currently active in this case. Claims 1-6, 8-13, and 15-19 have been amended, and Claims 14 and 20 have been cancelled by the current amendment. No new matter has been added.

In the outstanding Office Action, Claim 5 was rejected under 35 U.S.C. § 102(e) as being anticipated by Inoue et al. (hereinafter referred to as “the Inoue ‘974 patent”); Claims 1-3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Inoue ‘974 patent in view of Watanuki et al.; Claim 4 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the Inoue ‘974 patent in view of Leung; Claims 6 and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Watanuki et al. in view of Leung and Momona; Claim 8 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Momona in view of Inoue et al. (hereinafter referred to as “the Inoue ‘120 patent”); Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hancock in view of Soliman et al.; Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hancock in view of Soliman et al. and Watanuki et al.; Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hancock and Soliman et al. and Watanuki et al. as applied to Claim 9 and in further view of Momona; Claims 12 and 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Inoue ‘120 patent in view of Leung and Hancock; Claims 14 and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hancock in view of Leung; Claims 16 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hancock in view of Watanuki et al.; Claim 18 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Watanuki et al. in view of Momona; Claim 19 was rejected under 35 U.S.C. § 103(a) as being unpatentable over O’Neil et al. in view of

Leung; and Claim 20 was rejected 35 U.S.C. § 103(a) as being unpatentable over the Inoue '120 patent in view of Leung.

In response to the objections to Claims 2, 3, 10, and 11, those claims have been rewritten consistent with U.S. patent practice. No further objection to those claims is therefore anticipated.

Briefly recapitulating, the present invention (Claim 1) is directed to a mobile communication control system having a plurality of access nodes. The present invention addresses, among other problems, the inability of prior art systems to cloak the location of a destination mobile terminal because those systems rely on the care of address ("CoA") of the destination mobile terminal in order to route packets thereto. In particular, in many prior art systems, the source mobile terminal is aware of the CoA of the destination mobile terminal. See page 4, lines 4-9 of the Specification.

To address the privacy problem, the present invention (Claim 1) includes, among other things, a source access node, a destination access node, and a mobile node. Each of those nodes includes an address changer configured to replace a destination address provided in a packet destined for the destination mobile terminal. The source access node replaces the first address of the destination mobile terminal with the second address of the destination mobile terminal, the destination access node replaces the second address with the third address of the destination mobile terminal, and the mobile node replaces the third address with the first address of the destination mobile terminal. The replacement of the address is also referred to herein as the replacement feature. See, by way of non-limiting example, Figure 9 of the Specification.

Claims 4 and 5 are directed to a network management server of a mobile communication network. The network management server includes an address manager configured to manage the first, second, and third addresses of the destination mobile terminal

in accordance with information received from the mobile node and the destination access node. See, by way of non-limiting example, Figure 10 of the Specification.

Claim 6 is directed to the mobile node. Similar to Claim 1, Claim 6 defines, among other things, that the address changer of the mobile node changes a destination address of the packet, wherein only one address associated with the destination mobile terminal is provided in the packet.

Claim 8 is directed to the access node defined by the system of claim 1.

Another problem addressed by the current invention is the increased size of the header of packets due to encapsulation in the routing process. See page 3, lines 2-28 of the Specification. To that end, Claim 9 is directed to a mobile communication system including, among other things, a source access node, an anchor node, a destination access node, and a mobile node. The anchor node includes, among other things, an address changer configured to replace a destination address in the packet transmitted from the source access node. The second address of the destination mobile terminal is replaced by the third address of the destination mobile terminal. The address changer is further configured to encapsulate the packet using encapsulation information. See, by way of non-limiting example, Figure 15 of the Specification.

Claims 12 and 13 are directed to a network management server of a mobile communication network. The network management server includes an address manager configured to manage the first, second, and third addresses of the destination mobile terminal in accordance with information received from the mobile node and the anchor node. See, by way of non-limiting example, Figure 16 of the Specification.

Claim 15 is directed to the anchor node defined by the system of Claim 9.

The system of Claim 16 is similar to the system of Claim 1 with a few exceptions. In particular, the system of Claim 16 manages two addresses of the destination mobile device as

opposed to the three addresses managed by the system of Claim 1. Consequently, the address changer of the mobile node is configured to replace the second address of the destination mobile terminal with the first address of the destination mobile terminal.

Claim 18 is directed to a mobile node similar to the mobile node defined by Claim 16. However, Claim 18 defines that the address manager assigns a second address of a new mobile terminal included in a predetermined range of addresses assigned by the destination access node in accordance with an address assignment request transmitted from the new mobile terminal, so as to manage a first address and the second address of the new mobile terminal. See, by way of non-limiting example, Figure 18 and page 38, lines 14-18 of the Specification.

Claim 19 is directed to an access node in a mobile communication network. The access node includes an address assigner configured to assign a predetermined range of addresses to the mobile node in accordance with an address assignment request transmitted from the mobile node, the predetermined range of addresses being selected from among a range of addresses assigned to the destination access node.

In contrast to the present invention (Claim 1), the Inoue '974 patent is directed to a mobile computer communication scheme which relies upon a care of address management unit. As discussed in column 19, lines 36-44 and illustrated in Figure 19, the home agent 5 of the private network includes a care of address management unit 52 for managing the current location address of a destination mobile terminal 3. Upon receiving a packet destined for the mobile terminal 3, the encapsulation and transfer unit 53 encapsulates the packet for relay to the current location of the mobile terminal 3. The Inoue '974 patent fails to teach or suggest replacing a destination address of the packet. Rather, by encapsulating the packet, an address is added to the packet. The original address remains.

The Watanuki et al. patent fails to address the deficiencies of the Inoue et al. patent.

In particular, the Watanuki et al. patent relies upon packets including both home and foreign addresses of target mobile devices provided in a header. See Figures 14-17. An additional movement header is added to the packet when mobile nodes in different networks communicate with each other. Consequently, Watanuki et al. do not teach or suggest replacing the destination address of the target mobile device in the packet, and the Inoue '974 patent is not believed to anticipate or render obvious the subject matter defined by Claim 1 when considered alone or in combination with Watanuki et al.

Regarding independent Claims 4, 5, 12, and 13, the Inoue '974 patent fails to teach or suggest a network management server including an address manager configured to manage first, second, and third addresses of the destination mobile terminal in accordance with address assignment information received from the mobile node and from the destination access node (anchor node in Claims 12 and 13). That is, when the mobile terminal 3 is located within the global system, the Internet home agent provides current location address information to the management unit 52. However, during this time, no second node including the private network home agent provides any address information regarding the destination mobile terminal. The Leung patent does not address this deficiency. The Leung patent merely discloses a mobile router connected to a foreign agent similar to the Internet home agent of the Inoue '974 patent.

Similarly, with regard to Claims 12 and 13, Hancock merely teaches an anchor node. However, Hancock does not teach or suggest an address manager which receives assignment information from both a mobile node and an anchor node. Thus, the Inoue '974 patent is not believed to anticipate or render obvious the subject matter defined by Claims 4, 5, 12 and 13 when considered alone or in combination with the Leung patent and/or the Hancock publication.

As addressed above, the Watanuki et al. patent utilizes a packet having both home and

foreign addresses of a destination mobile terminal. In contrast thereto, Claim 6 defines that only one address associated with the destination mobile terminal is provided in the packet. The Leung and Momona patents do not address this deficiency. Figures 3B and 3C of Leung reflect that it is directed to a recursive tunneling encapsulation process. Consequently, more than one address associated with the destination mobile terminal is provided in the packet. Momona, on the other hand, utilizes an address mapping table including home local multicast addresses and foreign local multicast addresses. Column 12, lines 12-25 of Momona teach that in step P243 a received packet is encapsulated in a second packet destined to the retrieved foreign local multicast address (i.e., the second address associated with the destination mobile). Consequently, the Watanuki et al. publication is not believed to anticipate or render obvious the subject matter defined by Claim 6 when considered alone or in combination with Leung and Momona.

Regarding Claim 18 (as amended for clarification), Applicants respectfully submit that neither Watanuki et al. nor Momona teach an address manager of a mobile node configured to assign an address to a new mobile terminal wherein the address is selected from a predetermined range of addresses assigned by a destination access node. Consequently, Watanuki et al. are not believed to anticipate or render obvious the subject matter defined by Claim 18 when considered alone or in combination with Momona.

As discussed above, Momona is directed to an encapsulation process wherein a receive packet is encapsulated in a packet destined for a foreign local multicast address. In contrast thereto, Claim 8 defines an access node including an address changer configured to replace a destination address in the packet transmitted from a source access node. Regarding the Inoue '120 patent, that patent fails to address the deficiencies of the Momona patent as it focuses on a registration scheme which relies upon a care-of address. See Figures 2 and 3. Consequently, Momona is not believed to anticipate or render obvious the subject matter

defined by Claim 8 when considered alone or in combination with the Inoue '120 patent.

Regarding claim 9, as illustrated in Figure 3 of the Hancock publication, the destination address M of the mobile terminal is never changed during the packet routing process. Page 23 of the Official Action asserts that Soliman et al. disclose allocating a mobile node second and third addresses. However, Soliman et al. does not address the deficiencies of Hancock. That is, Soliman et al. does not teach or suggest replacing a destination address and a packet transmitted from a source access node to an anchor node, from the anchor node to a destination access node, and from the destination access node to a mobile node. Consequently, Hancock is not believed to anticipate or render obvious the subject matter defined by Claim 9 when considered alone or in combination with Soliman.

As addressed above, Leung and Watanuki et al. also fail to teach or suggest the replacement feature of the present invention. Consequently, Hancock is not believed to anticipate or render obvious the subject matter defined by Claim 15 when considered alone or in combination with the Leung patent, and Hancock is not believed to anticipate or render obvious the subject matter defined by Claim 16 when considered alone or in combination with Watanuki et al.

Regarding claim 19, the O'Neil et al. patent publication is directed to an apparatus which utilizes multiple uplinks and reverse tunneling. The Official Action concedes on page 46 that O'Neil et al. does not explicitly disclose having an address assigner. Applicants agree. However, the Official Action further asserts that the Leung patent discloses an access node configured to assign care of addresses to a mobile router. Column 9, lines 27-67 of Leung teach obtaining a collocated care of address which is temporarily assigned to an interface of the mobile node for a mobile router. However, the Leung patent does not teach or suggest that the assigned address is obtained from a range of addresses or that the range of addresses is selected from a range of addresses assigned to the destination access node.

Dependent claims 2, 3, 7, 10, 11, and 17 are believed to be allowable for at least the same reasons that the independent claims from which those claims depend are believed to be allowable.

In view of the foregoing, no further issues are believed to remain. An early and favorable action is therefore respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Bradley D. Lytle
Attorney of Record
Registration No. 40,073

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)

W. Todd Baker
Registration No. 45,265